

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

2661

Applicant: Alexander A. Maltsev et al.

Title: RECEIVER AND METHOD TO DETECT AND SYNCHRONIZE WITH A SYMBOL
BOUNDARY OF AN OFDM SYMBOL

Docket No.: 884.781US1

Filed: September 30, 2003

Examiner: Unknown



Serial No.: 14675213

Due Date: March 30, 2004

Group Art Unit: 2661

RECEIVED
MAR 23 2004
TO 2600

RECEIVED

MAR 23 2004

Technology Center 2600

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

- ☒ A return postcard.
- ☒ An Information Disclosure Statement (2 pgs.), Form 1449 (1 pg.), and copies of 8 cited documents.
(Copies of US Patent/Publication references not provided; application filed after June 30, 2003.)

If not provided for in a separate paper filed herewith, Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
Customer Number 21186

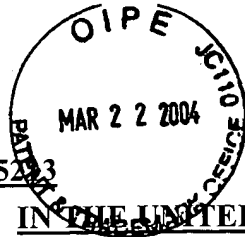
By: Ann M. McCrackin
Atty: Ann M. McCrackin
Reg. No. 42,858

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 19 day of March, 2004.

KACIA LEE
Name

Kacia Lee
Signature

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
(GENERAL)



S/N 10/675213

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Alexander A. Maltsev et al.	Examiner:	Unknown
Serial No.:	10/675213	Group Art Unit:	2661
Filed:	September 30, 2003	Docket:	884.781US1
Title:	RECEIVER AND METHOD TO DETECT AND SYNCHRONIZE WITH A SYMBOL BOUNDARY OF AN OFDM SYMBOL		
Assignee:	Intel Corporation	Customer No:	21186

RECEIVED

MAR 23 2004

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Technology Center 2600

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

The present application is either a U.S. national patent application filed after June 30, 2003 or an international application that entered the national stage under 35 U.S.C. § 371 after June 30, 2003. Thus, Applicant believes that the U.S. Patent & Trademark Office has waived the requirement under 37 C.F.R. 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication. The waiver is provided in a pre-OG notice from the U.S. Patent & Trademark Office entitled "Information Disclosure Statements May Be Filed Without Copies of U.S. Patents and Published Applications in Patent Applications filed after June 30, 2003" and dated July 11, 2003. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).

Pursuant to 37 C.F.R. §1.97(b), it is believed that no fee or statement is required with the Information Disclosure Statement. However, if an Office Action on the merits has been mailed, the Commissioner is hereby authorized to charge the required fees to Deposit Account No. 19-0743 in order to have this Information Disclosure Statement considered.

INFORMATION DISCLOSURE STATEMENT

Serial No : 10/675213

Filing Date: September 30, 2003

Title: RECEIVER AND METHOD TO DETECT AND SYNCHRONIZE WITH A SYMBOL BOUNDARY OF AN OFDM SYMBOL

Assignee: Intel Corporation

Page 2

Dkt: 884.781US1 (INTEL)

The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

Respectfully submitted,

ALEXANDER A. MALTSEV ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

Attorneys for Intel Corporation

P.O. Box 2938

Minneapolis, Minnesota 55402

(612) 349-9592

Date March 19, 2004 By Ann M. McCrackin
Ann M. McCrackin
Reg. No. 42,858

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 19 day of March, 2004.

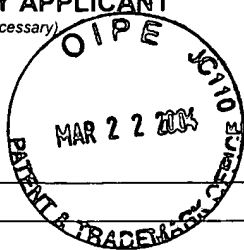
KACIA LEE
Name

Kacia Lee
Signature

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)



Complete if Known

Application Number 10/675213

Filing Date September 30, 2003

First Named Inventor Maltsev, Alexander

Group Art Unit 2661

Examiner Name Unknown

MAR 23 2004

Sheet 1 of 1

Attorney Docket No: 884.781US1

Technology Center 2600

US PATENT DOCUMENTS

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
	US-2002/0159533-A1	10/31/2002	Crawford, J. A.	375	260	08/21/2001
	US-5,652,772	07/29/1997	Isaksson, Mikael , et al.	375	367	01/22/1996
	US-5,732,113	03/24/1998	Schmidl, Timothy M., et al.	375	355	06/20/1996
	US-6,295,326	09/25/2001	Tonissen, Shane M., et al.	375	350	03/01/2000
	US-6,320,915	11/20/2001	Stott, Jonathan H., et al.	375	340	05/01/1998
	US-6,359,938	03/19/2002	Keevill, Peter A., et al.	375	316	10/22/1997
	US-6,363,128	03/26/2002	Isaksson, Mikael , et al.	375	355	06/23/1999

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T ²
--------------------	---------------------	------------------	---	-------	----------	----------------

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		CHEN, BOR-SEN , et al., "Frequency Offset Estimation in an OFDM System", 2001 IEEE Third Workshop on Signal Processing Advances, Wireless Communications 2001, (2001),150-153	
		DACCA, M. R., et al., "Frequency Offset Tracking in OFDM Based on Multicarrier PLL", 21st Century Military Communications Conference Proceedings, Vol. 2, (2000),912-916	
		LARSSON, ERIK G., et al., "Joint symbol timing and channel estimation for OFDM based WLANs", IEEE Communications Letters, Vol. 5, No. 8, (August 2001),325-327	
		LI, JIAN , et al., "Carrier Frequency Offset Estimation for IFDM-Based WLANs", IEEE Signal Processing Letters, Vol. 8, No. 3, (March 2001),80-82	
		MATHEUS, KIRSTEN , et al., "Parameter Optimization for Decision Directed Frequency Tracking for Coherent OFDM", Global Telecommunications Conference, 2000, IDDD Vol. 3, (2000),1402-1406	
		MORELLI, MICHELE , et al., "Carrier-Frequency Estimation for Transmission over Selective Channels", IEEE Transactions on Communications, Vol. 48, No. 9, (September 2000),1580-1589	
		PERETS, R. , et al., "A New Phase and Frequency Offset Estimation Algorithm for OFDM Systems Applying Kalman Filter", 22nd Convention of Electrical and Electronics Engineers in Israel, IEEE, XP010631136, (12/01/2002), 300-302	
		SCHMIDL, TIMOTHY M., "Robust Frequency and Timing Synchronization for OFDM", IEEE Transactions on Communications, Vol. 45, No. 12, (Dec. 1997),1613-1621	

EXAMINER

DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached